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ABSTRACT

This study investigated whether seventh- and ninth-grade students who did prewriting activities in English class preceding a related literature comprehension test would produce higher raw test scores on literal and interpretive questions than would students who did not use prewriting. The study took place in 1993 and 1995. Participants included two each of average seventh- and ninth-grade English classes. Intervention group students participated in a prewriting activity prior to the literature comprehension test. The activity involved writing about personal knowledge, experience, or emotion related to the story. Control group students did not participate in prewriting. Students in both groups read the same story and had the same test questions. Data analysis indicated a majority of higher scores for all four ninth-grade experimental groups in nearly every itemized comparison with the control groups. However, for the seventh grade, the same indications were not as evident. In some comparisons, the seventh-grade control groups outperformed the experimental groups. However, in general, prewriting increased students' performance on reading comprehension tests, even when students in one of the intervention group initially had lower overall grade point averages than did students in the corresponding control group. (SM)

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# A CONSTRUCTIVIST TECHNIQUE WHICH IMPROVES READING COMPREHENSION

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Los Angeles Unified School District

Constructivism is where learning essentially involves finding out about something through our own actions, and making some sense of the result through our own thinking. The educational reform movement today advocates constructivism with a hands-on approach, because hands-on is the area that is severely lacking; that is, in most respects, we don't know how to tap into the student's own thinking. Therein lies the true value of this technique, in that it establishes a psychological connective between the student and the literature, allowing constructivism to occur successfully, naturally.

This new strategy, which improves reading comprehension employs the use of psychology, engaging the reader's recall of his own world into an identification with the text. The difference between this technique and those used in previous studies is that there is a writing activity inserted before the reading of the text, designed to stimulate the reader's orientation toward the main themes of the literature, thereby allowing him to perceive a correspondence between it and his own life/world.

## DEVELOPMENT OF HYPOTHESIS.

The hypothesis is that junior high and high school (specifically 7th and 9th grade) English class students who do pre-writing activities preceeding a related literature comprehension test will produce higher raw test scores on Literal and Interpretive questions than those students who do not use pre-writing.

Pre-writing provides students with a lead into the forthcoming literature, and this extension of a theme establishes empathy, or projective response, through subjective, personal experience.

Specifically, the scores of the Interpretive based questions of the Experimental groups should increase significantly above the Control group's scores on same, because the former is relating to the answers in a deeper subjective fashion than the latter; this because they have already established a connection through the pre-writing exercise.

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METHODS, MATERIALS, SUBJECTS.

This study was done over two, non-consecutive years: 1993 and 1995. The subjects were two each of 9th and 7th grade average, English classes. In 1993 the 9th grade class with the lower overall GPA between the two was chosen to be the Experimental group. The class with the higher overall GPA was the Control group, which did not use the technique of pre-writing, as a bridge prior to a 10-question literature comprehension test using Literal and Interpretive questions. The Experimental group was given a discussion with the topic "Have you ever witnessed or been in a natural disaster?" The teacher listed on the board examples that the class gave, such as floods, earthquakes, etc. The teacher offered the example of being trapped in the snow. Several natural disasters were listed, all were briefly discussed, and they were told that the forthcoming short story "To Build A Fire" was about a man trying to survive in the snow. Next, the Experimental group wrote a two paragraph, creative writing paper on a natural disaster of their choice, reflecting on their own past experience, or knowledge of such. The following day they read the story and took the test, which consisted of five Literal (text based) and five Interpretive (text plus personal life/opinion based) questions. All the tests throughout this experiment were closed book tests. All stories were analyzed with the Fry Readability graph.

The Control group, on the other hand, was not given a pre-writing activity. Everything else was the duplication of the Experimental group's lessons: the same story and the same student answer sheets were used. Each Control group in this study simply read the short story, then took the test.

The other short story used, "How To Win," followed the exact format as the first, except of course, the pre-writing question was appropriate to it. The Experimental group was given a discussion by the teacher, as she lead with the question "Have you ever felt nervous before playing a sport? What happened?"

In 1995 the two 7th grade classes were interchanged as the Control and Experimental groups, to obtain a more accurate assessment of the effectiveness of the pre-writing technique. Again the short story "To Build A Fire" was employed, but a different second short story was used: "The Sniper." The pre-writing question for "The Sniper" was "Have you ever hurt someone you loved, but didn't mean to? How did it make you feel?" Both classes completed all the work within a two hour block of time, during their Fall semester final exam, two days apart from each other. Each class started off as an Experimental group, did the pre-writing activity first, immediately taking the test thereafter. Each group ended as a Control group, with a second test.

## RESULTS AND DISCUSSION

After both experiments were completed, which included a total of four classes, the analysis of percentage scores showed a majority of higher marks for all the Experimental groups, in nearly every itemized comparison with the Control groups, pertaining to the 9th grade classes. However, for the 7th grade, these same indications are not as evident from looking at the Selective Results Page, as they are from reading the Class Summary Record Analysis Sheets.

JUXTAPOSITION OF LOWER GPA TO HIGHER GPA GROUPS. On the 1993 Selective Results page, the top 5 scorers from each 9th grade class, and the top 5 students with the highest GPA's in those classes (determined by their cummulative scores on 15 English assignments) were listed against each other. Although the Experimental group has the lower averaged GPA of the two, they still performed better than the Control group in all four comparisons: whether approaching the findings in the context of listing both groups' highest scores on each test, or in the context of listing both groups' highest GPA's, the Experimental group consistently outperformed the Control group every time. Also on this page, we find the greatest difference is a 30 point spread between the top five achievers (GPA) of each class: the GPA's of the Control group are dramatically higher than the Experimental group's GPA's, yet the astounding result is this 30 point variance on behalf of the Experimental group.

Looking at the results indicating the least differences in performance between 9th grade classes on the Class Summary Record Analysis Sheet (in regards to the harder test, "How To Win") there is no significant gain in the Experimental group over the Control group. However, the average GPA of the Experimental group is slightly lower than the other; also, there are less members in the Experimental class than the Control class, indicating less chance for success. Additionally, even with lesser GPA averages the Experimental group still evenly matched the Control group's results, and on the Selective Results Page, exceeded them.

LOWER ACHIEVERS BENEFITTED. Using a 2.0 GPA as the separating point between higher and lower GPA groups, collective, group totals and averages were determined for all Interpretive scores. The result was that the lower GPA (-2.0) Experimental group students outperformed the higher GPA (2.0 and above) Control group students on the same tests, each and every time, for both the 7th and 9th grades. This finding suggests the technique is most useful for average to low achieving students, who somehow compensate for lack of rote memorization skills (Literal response) with an increased ability to incorporate a personal, subjective understanding (Interpretive response) to the text.

STATISTICAL RELEVANCY TO AGE: OLDER AS INDIVIDUAL, YOUNGER AS COLLECTIVE EMOTIONAL RESOURCE. The most significant difference between the two 9th grade classes is found on the Class Summary Record Analysis Sheet in the percentage totals of the Interpretive questions, particularly in the first story "To Build A Fire," where we see a 10.5% difference. There is less of a difference in Interpretive question percentiles shown in the second story "How To Win," a much more intellectually demanding story (based on the Fry readability check); also, the Experimental group scored lower than the Control group by only 2.5%. In other words, the "harder" test came back with more evenly matched results, while the

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"easier" test showed a higher variation in performance of Interpretive test questions.

Looking at the 1995 Selective Results Page, there is quite another story: the 7th grade students in the Control groups outperform the Experimental groups in every comparison except the easier test "To Build A Fire," where the raw score totals are identical. It is on the Class Record Analysis Sheets where it is clearly found that the Experimental groups outperform each of the matched Control groups, on both the Interpretive and the Total Correct percentages, on each story's tests. That parallels the results from the 1993 "To Build A Fire" Class Summary Record Analysis Sheets.

The 9th grade students' abilities tapered off more equally on the harder test, but with the 7th grade students the superior performance by the Experimental group becomes even more pronounced. This suggests that the younger the student, the more subjective recall can be employed under an increased stress factor, probably due to a more higher emotional participation, or a more basic emotional memory than those older. It would appear, from the inconsistency between the 7th grade Selective Results Page and the Class Summary Record Analysis Sheets, and the consistency between the above same 9th grade findings, that the older students tend to benefit in a more individualized context, while the younger students benefit collectively. This may explain why on the 1995 Selective Results Page the top GPA students do not statistically benefit from the pre-writing activity, although the entire class does. And,this is logical from a pychological perspective, in that we become more individual persons as we age, and also tend to suppress, or control our emotions more.

TECHNIQUE IS AN OVERALL USEFUL TOOL. 7th grade Experimental group percentile scores from both tests were higher than the Control groups' scores in five out of six categories, in the Literal, Interpretive, and Total Correct percentiles. The most significant gains are in the Interpretive answers from the harder test, "The Sniper," (+8%), and the Literal answers from the easier test, (+6.9%). This shows that especially for younger students, pre-writing could prove a useful tool in improving reading comprehension, since it affords them a way to tap in to their own, subjective worlds. For the older students, it seems apparent that they have been trained longer to rely on rote memory, and thus, it may not be as accessible for them to connect with their inner responses, unless this technique is employed at an earlier age. This may explain why the 9th grade Control group fared slightly better on the Literal answers of the easier test (+1.6), because basically, the text was easier, so data recall was easier, and this caused less dependence on a subjective, interpretive strategy. The 9th grade Control group did slightly better on the Interpretive answers of the harder test (+2.5%), but the Experimental group matched them by scoring higher on the Literal answers (+2.5%), and by scoring the same as them in the Total Correct column (50%). On the harder test, the Control group 9th grade class reached a threshold on the Literal answers, as the Experimental group out-performed them on the Literal questions. Conversely, on the harder test, the Experimental group 7th grade class reached a threshold on the Literal answers, but scored higher than the Control group in the Interpretive and Total Correct categories. It would seem that the beneficial effects gained from a pre-writing activity diminish slightly as the students get older and the reading material

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becomes more demanding, until we take into account that in the case of the 9th grade students, the Experimental group has a lower cummulative GPA than the Control group, especially evident on the "Selective Results Page." In the case of the 7th grade students, the beneficial effects gained from the pre-writing activity of the harder test show the greatest percentile gain in the Interpretive column (+8%), (on behalf of the Experimental group). Interpretive scores based on the easier reading material "To Build A Fire," were higher for both 7th and 9th grade Experimental groups (+3.4% and +10.5%). This was because the lower grade reading material was less stressful to comprehend, and this, coupled with the psychological boost afforded them from the pre-writing activity, actually increased accessibility to, and therefore usage of abstract thinking ability.

## CONCLUSION

Obviously all the Experimental groups had an advantage over the Control groups, as shown by the relative phenomena which took place. Overall, pre-writing did prove to increase student performance on reading comprehension test scores, and this supports the original hypothesis of the study.

The home is the strongest influence for achievement, and the school can do very little to effect socio-economic status. However, we can offer achievement strategies to help overcome disadvantages and promote learning. By providing the link between the child's personal experiences and the academic literature, we can make the student more aware of the valid, positive interaction between his own home environment and opportunities he finds in school. Pre-writing topics can be included as a prelude to study of literature comprehension lessons, to establish a relative base from which to build subsequent knowledge upon. In this manner, the student learns that he can effect his achievement scores through tapping in to his own life; this is established through the technique described in this research experiment.

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All statistical data and test materials are available upon request.

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Primary (Experiment/Observation) Research Paper
Selective Results Page - 1993

"To Build A Fire"

| Period 3 | | | Period 5 | | |
|---|---|---|---|---|---|
| Control Group:No Pre-writing | | | Experimental Group:Pre-writing | | |
| Top 5 scorers: | GPA | Raw score | Top 5 scorers: | GPA | Raw score |
| Solorio Wendy | 3.0 | 100 | Pulido Ryan | 1.1 | 100 |
| Munoz Tony | 3.7 | 90 | Ball Michael | 1.9 | 90 |
| Soto Bladimir | 2.2 | 90 | Hernandez Maria | 2.9 | 90 |
| Nevarez Anthony | 1.8 | 80 | Le Van | 2.8 | 90 |
| Orozco Janette | 1.3 | 80 | DeCosta Athena | 2.1 | 80 |
| Totals: | | 440 | | | 450 |
| Top 5 GPA in class: | GPA | Raw score | Top 5 GPA in class: | GPA | Raw score |
| Munoz Tony | 3.7 | 90 | Dimaano Monette | 3.0 | 80 |
| Sukara George | 3.5 | 70 | Hernandez Maria | 2.9 | 90 |
| Gregory Kolleen | 3.2 | 70 | Le Van | 2.8 | 90 |
| Solorio Wendy | 3.0 | 100 | DeCosta Athena | 2.1 | 80 |
| Mejia Katrina | 2.7 | 50 | Herrera Victor | 2.1 | 70 |
| Totals: | | 380 | | | 410 |

"How To Win"

| Period 3 | | | Period 5 | | |
|---|---|---|---|---|---|
| Control Group:No Pre-writing | | | Experimental Group:Pre-writing | | |
| Top 5 scorers: | GPA | Raw score | Top 5 scorers: | GPA | Raw score |
| Munoz Tony | 3.7 | 80 | Ball Michael | 1.9 | 80 |
| Nevarez Anthony | 1.8 | 80 | Dimaano Monette | 3.0 | 80 |
| Sinohue Jason | 1.1 | 70 | Trinh Du | 1.6 | 80 |
| Velasco Reggie | 2.1 | 70 | Hernandez Maria | 2.9 | 70 |
| Gregory Kolleen | 3.2 | 60 | Latin Sandra | 1.4 | 70 |
| Totals: | | 360 | | | 380 |
| Top 5 GPA in class: | GPA | Raw score | Top 5 GPA in class: | GPA | Raw score |
| Munoz Tony | 3.7 | 80 | Dimaano Monette | 3.0 | 80 |
| Sukara George | 3.5 | 60 | Hernandez Maria | 2.9 | 70 |
| Gregory Kolleen | 3.2 | 60 | Le Van | 2.8 | 70 |
| Solorio Wendy | 3.0 | 40 | DeCosta Athena | 2.1 | 30 |
| Mejia Katrina | 2.7 | 40 | Herrera Victor | 2.1 | 40 |
| Totals: | | 280 | | | 290 |

Primary (Experiment/Observation) Research Paper
"To Build A Fire"

1993
Class Summary Record Analysis Sheet

**Period 3**

| Control Group-No Pre-writing: | GPA | Litrl | Intrprtv | Total Correct |
|---|---|---|---|---|
| 1. Acosta Eurie | 1.5 | 60% | 40% | 50% |
| 2. Aguirre Regina | .6 | 40% | 40% | 40% |
| 3. Carillo Ruben | .2 | 80% | 20% | 50% |
| 4. Cortez James | 1.5 | 40% | 40% | 40% |
| 5. Gallardo David | 0 | 60% | 80% | 70% |
| 6. Garcia Mike | .9 | 60% | 0% | 30% |
| 7. Gregory Kolleen | 3.2 | 60% | 80% | 70% |
| 8. Hiwatig Jonathan | .8 | 40% | 40% | 40% |
| 9. Marin Arturo | 0 | 40% | 0% | 20% |
| 10.Mejia Katrina | 2.7 | 40% | 60% | 50% |
| 11.Munoz Tony | 3.7 | 100% | 80% | 90% |
| 12.Narag Gavin | 1.8 | 60% | 60% | 60% |
| 13.Nevarez Anthony | 1.8 | 80% | 80% | 80% |
| 14.Orozco Janette | 1.3 | 80% | 80% | 80% |
| 15.Ramirez Laura | 1.7 | 80% | 80% | 80% |
| 16.Santana Edward | 1.5 | 80% | 60% | 70% |
| 17.Sinohue Jason | 1.1 | 100% | 60% | 80% |
| 18.Solorio Wendy | 3.0 | 100% | 100% | 100% |
| 19.Soto Bladimir | 2.2 | 80% | 100% | 90% |
| 20.Sukara George | 3.5 | 60% | 80% | 70% |
| 21.Torres Damian | 1.4 | 60% | 40% | 50% |
| 22.Velasco Natalie | 1.5 | 40% | 60% | 50% |
| Averages of class totals of correct answers: | 1.6 | 65.4% | 58% | 62.2% |

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Primary (Experiment/Observation) Research Paper

"To Build A Fire"

1993
Class Summary Record Analysis Sheet

Period 5

| Experimental Group - Pre-Writing: | GPA | Litrl | Intrprtv | Total Correct |
|---|---|---|---|---|
| 1. Anaya Yanira | .6 | 60% | 80% | 70% |
| 2. Avila Nathan | 1.8 | 60% | 60% | 60% |
| 3. Ball Michael | 1.9 | 80% | 100% | 90% |
| 4. Davis Michelle | 1.2 | 40% | 60% | 50% |
| 5. DeCosta Athena | 2.1 | 60% | 100% | 80% |
| 6. DelaCruz Olivia | 1.4 | 60% | 40% | 50% |
| 7. Dimaano Monette | 3.0 | 80% | 80% | 80% |
| 8. Giles Jennifer | 2.0 | 80% | 60% | 70% |
| 9. Gomez Armando | 1.0 | 40% | 40% | 40% |
| 10.Hernandez Maria | 2.9 | 80% | 100% | 90% |
| 11.Herrera Victor | 2.1 | 80% | 60% | 70% |
| 12.Lang Jerry | 1.8 | 100% | 40% | 70% |
| 13.Latin Sandra | 1.4 | 40% | 80% | 60% |
| 14.Le Van | 2.8 | 80% | 100% | 90% |
| 15.Pulido Ryan | 1.1 | 100% | 100% | 100% |
| 16.Rios Jose | 0 | 40% | 60% | 50% |
| 17.Rodriguez Monica | .8 | 60% | 20% | 40% |
| 18.Trinh Du | 1.6 | 80% | 60% | 70% |
| 19.Trujillo Adam | .9 | 20% | 80% | 50% |
| 20.Valencia Norma | 1.7 | 60% | 80% | 70% |
| 21.Vasquez Edward | 1.3 | 40% | 60% | 50% |
| Averages of class totals of correct answers: | 1.5 | 63.8% | [illegible].58 | 66% |

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Primary (Experiment/Observation) Research Paper
"How To Win"
1993
Class Summary Record Analysis Sheet

Period 3

| Control Group-No Pre-writing: | GPA | Litrl | Intrprtv | Total Correct |
|---|---|---|---|---|
| 1. Acosta Eurie | 1.5 | 60% | 40% | 50% |
| 2. Canedo Zahired | 1.2 | 40% | 60% | 50% |
| 3. Carrillo Ruben | .2 | 40% | 60% | 50% |
| 4. Garcia Michael | .9 | 0% | 40% | 20% |
| 5. Gregory Kolleen | 3.2 | 60% | 60% | 60% |
| 6. Hiwatig Jonathan | .8 | 20% | 40% | 30% |
| 7. Mejia Katrina | 2.7 | 0% | 80% | 40% |
| 8. Marin Arturo | 0 | 0% | 40% | 20% |
| 9. Munoz Tony | 3.7 | 60% | 100% | 80% |
| 10.Narag Gavin | 1.8 | 40% | 60% | 50% |
| 11.Nevarez Anthony | 1.8 | 60% | 100% | 80% |
| 12.Orozco Janette | 1.3 | 40% | 60% | 50% |
| 13.Ramirez Laura | 1.2 | 40% | 60% | 50% |
| 14.Santana Edward | 1.5 | 40% | 80% | 60% |
| 15.Servillo Crystal | 1.3 | 60% | 60% | 60% |
| 16.Sinohue Jason | 1.1 | 40% | 100% | 70% |
| 17.Soloric Wendy | 3.0 | 20% | 60% | 40% |
| 18.Soto Bladimir | 2.2 | 20% | 60% | 40% |
| 19.Sukara George | 3.5 | 40% | 80% | 60% |
| 20.Torres Damian | 1.4 | 60% | 60% | 60% |
| 21.Velasco Natalie | 1.5 | 0% | 20% | 10% |
| 22.Velasco Reginald | 2.1 | 80% | 60% | 70% |
| 23.Wammack Shannon | 1.3 | 20% | 80% | 50% |
| Averages of class totals of correct answers: | 1.7 | 36.5% | 63.4% | 50% |

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Primary (Experiment/Observation) Research Paper
"How To Win"

1993
Class Summary Record Analysis Sheet

Period 5

| Experimental Group- Pre-writing: | GPA | Litrl | Intrprtv | Total Correct |
|---|---|---|---|---|
| 1. Avila Nathan | .6 | 40% | 60% | 50% |
| 2. Ball Michael | 1.9 | 80% | 80% | 80% |
| 3. Davis Michelle | 1.2 | 60% | 60% | 60% |
| 4. DeCosta Athena | 2.1 | 20% | 40% | 30% |
| 5. DelaCruz Olivia | 1.4 | 20% | 40% | 30% |
| 6. Dimaano Monette | 3.0 | 60% | 100% | 80% |
| 7. Giles Jennifer | 2.0 | 0% | 60% | 30% |
| 8. Gomez Armando | 1.0 | 20% | 60% | 40% |
| 9. Hernandez Maria | 2.9 | 60% | 80% | 70% |
| 10.Herrera Victor | 2.1 | 40% | 40% | 40% |
| 11.Lang Jerry | 1.8 | 20% | 80% | 50% |
| 12.Latin Sandra | 1.4 | 60% | 80% | 70% |
| 13.Le Van | 2.8 | 60% | 80% | 70% |
| 14.Pulido Pyan | 1.1 | 20% | 20% | 20% |
| 15.Rios Jose | 0 | 40% | 40% | 40% |
| 16.Rodriguez Monica | .8 | 20% | 40% | 30% |
| 17.Romero Beatrice | 1.8 | 40% | 40% | 40% |
| 18.Trinh Du | 1.6 | 60% | 100% | 80% |
| 19.Trujillo Adam | .9 | 20% | 60% | 40% |
| 20.Valencia Norma | 1.7 | 40% | 60% | 50% |
| 21.Vasquez Edward | 1.3 | 40% | 60% | 50% |
| Averages of class totals of correct answers: | 1.59 | 39% | 60.9% | 50% |

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Primary Research - Pre-writing vs. No Pre-writing
1995 Selective Results Page

'The Sniper"

| | Period 4 | | Period 6 | | |
|---|---|---|---|---|---|
| Control Group:No Pre-writing | | | Experimental Group:Pre-writing | | |
| Top 5 scorers: | | | Top 5 scorers: | | |
| | GPA | Raw score | | GPA | Raw score |
| Nerio Louis | 1.0 | 70 | Donaldson Lindsay | 1.1 | 60 |
| Ciani Theresa | 3.1 | 60 | Field Tynan | 1.0 | 60 |
| Ramirez Israel | 3.2 | 60 | Magallanes Paul | 3.9 | 60 |
| Arriola Victor | .8 | 50 | Griswold Rory | 3.2 | 50 |
| Hwang Andrew | 3.2 | 50 | Lewis Rae-Lynn | 3.0 | 50 |
| Totals: | | 290 | | | 280 |
| Top 5 GPA in class: | | | Top 5 GPA in class: | | |
| | GPA | Raw score | | GPA | Raw score |
| Santos Jonathan | 3.6 | 40 | Magallanes Paul | 3.9 | 60 |
| Hwang Andrew | 3.2 | 50 | Gudani Jason | 3.4 | 30 |
| Ramirez Israel | 3.2 | 60 | Griswold Rory | 3.2 | 50 |
| Ciani Theresa | 3.1 | 60 | Lewis Rae-Lynn | 3.0 | 50 |
| Gozun Rachel | 3.0 | 30 | Padilla Cosme | 2.9 | 30 |
| Totals: | | 240 | | | 190 |

To Build A Fire"

| | Period 4 | | Period 6 | | |
|---|---|---|---|---|---|
| Experimental Group:Pre-writing | | | Control Group:No Pre-writing | | |
| Top 5 scorers: | | | Top 5 scorers: | | |
| | GPA | Raw score | | GPA | Raw score |
| Buenafe Anna | 1.3 | 80 | Griswold Rory | 3.2 | 90 |
| Thomas Evan | 2.1 | 80 | Gudani Jason | 3.4 | 70 |
| Gozun Rachel | 3.0 | 70 | Ishaq Neseem | 2.5 | 70 |
| Oceguera Belen | 1.6 | 70 | Lewis Rae-Lynn | 3.0 | 70 |
| Aguilar Frankie | 2.0 | 60 | Goyette Bianca | 2.7 | 60 |
| Totals: | | 360 | | | 360 |
| Top 5 GPA in class: | | | Top 5 GPA in class: | | |
| | GPA | Raw score | | GPA | Raw score |
| Santos Jonathan | 3.6 | 50 | Magallanes Paul | 3.9 | 50 |
| Hwang Andrew | 3.2 | 50 | Gudani Jason | 3.4 | 70 |
| Ramirez Israel | 3.2 | 60 | Griswold Rory | 3.2 | 90 |
| Ciani Theresa | 3.1 | 50 | Lewis Rae-Lynn | 3.0 | 70 |
| Gozun Rachel | 3.0 | 70 | Padilla Cosme | 2.9 | 30 |
| Totals: | | 280 | | | 310 |

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1995

Class Summary Record Analysis Sheet
"To Build A Fire"
Period 4 - Experimental Group: Pre-writing

| | GPA | Litrl. | Intrprtv. | Total Correct |
|---|---|---|---|---|
| 1. Aguilar Frankie | 2.0 | 60% | 60% | 60% |
| 2. Araujo Michiko | 1.0 | 40% | 0% | 20% |
| 3. Arriola Victor | .8 | 20% | 0% | 10% |
| 4. Briceno Diane | 2.2 | 40% | 40% | 40% |
| 5. Buenafe Anna | 1.3 | 80% | 80% | 80% |
| 6. Chang Joanne | .6 | 60% | 40% | 50% |
| 7. Ciani Theresa | 3.1 | 40% | 60% | 50% |
| 8. Garcia George | 1.0 | 40% | 20% | 30% |
| 9. Gonzalez Lydia | 1.7 | 80% | 40% | 60% |
| 10. Gozun Rachellene | 3.0 | 100% | 40% | 70% |
| 11. Himes Erika | 2.0 | 60% | 60% | 60% |
| 12. Hwang Andrew | 3.2 | 40% | 60% | 50% |
| 13. Krenz Susan | 1.6 | 40% | 20% | 30% |
| 14. Leon Mitchel | 1.4 | 20% | 0% | 10% |
| 15. Lewis Kirk | 1.1 | 60% | 20% | 40% |
| 16. Marquez Joseph | 1.0 | 60% | 40% | 50% |
| 17. Martinez Natalie | 2.3 | 80% | 20% | 50% |
| 18. Miller Kenneth | .8 | 60% | 20% | 40% |
| 19. Nerio Louis | 1.0 | 60% | 60% | 60% |
| 20. Oceguera Belen | 1.6 | 80% | 60% | 70% |
| 21. Portillo Adam | 2.7 | 40% | 40% | 40% |
| 22. Ramirez Israel | 3.2 | 60% | 60% | 60% |
| 23. Santos Jonathan | 3.6 | 60% | 40% | 50% |
| 24. Serrato Linda | 2.5 | 40% | 40% | 40% |
| 25. Thomas Evan | 2.1 | 80% | 80% | 80% |
| Averages of class totals of correct answers: | 1.87 | 56% | 40% | 48% |

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Class Summary Record Analysis Sheet
"To Build A Fire"
eriod 6 - Control Group: No Pre-writing

| | GPA | Litrl. | Intrprtv. | Total Correct |
|---|---|---|---|---|
| 1. Alvarado David | 1.8 | 80% | 20% | 50% |
| 2. Berdecia Jose | 1.0 | 60% | 40% | 50% |
| 3. Donaldson Lindsay | 1.1 | 40% | 40% | 40% |
| 4. Field Tynan | 1.0 | 40% | 0% | 20% |
| 5. Flores Anna | 2.5 | 40% | 0% | 20% |
| 6. Garcia Kristen | 1.2 | 20% | 40% | 30% |
| 7. Goyette Bianca | 2.7 | 60% | 60% | 60% |
| 8. Griswold Rory | 3.2 | 80% | 100% | 90% |
| 9. Gudani Jason | 3.4 | 80% | 60% | 70% |
| 10. Hines Ebony | 1.2 | 60% | 40% | 50% |
| 11. Ishaq Neseem | 2.5 | 60% | 80% | 70% |
| 12. Istanbolian Vartan | .7 | 20% | 0% | 10% |
| 13. Jaquez Daniel | .1 | 20% | 0% | 10% |
| 14. Khan Kasim | 2.3 | 60% | 60% | 60% |
| 15. Lewis Rae-Lynn | 3.0 | 60% | 80% | 70% |
| 16. Magallanes Paul | 3.9 | 60% | 40% | 50% |
| 17. Padilla Cosme A. | 2.9 | 40% | 20% | 30% |
| 18. Renteria Juan | 2.9 | 40% | 40% | 40% |
| 19. Romero Kelly | 1.1 | 80% | 20% | 50% |
| 20. Ruiz Stevie | 2.5 | 40% | 20% | 30% |
| 21. Sarmiento Maria | 1.6 | 60% | 20% | 40% |
| 22. Serrato Luisa | 2.0 | 20% | 40% | 30% |
| 3. Sichler Krystal | .7 | 20% | 40% | 30% |
| 24. Vargas Betty | 2.3 | 40% | 20% | 30% |
| Averages of class totals of correct answers: | 1.98 | 49.1% | 36.6% | 42.9% |

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Class Summary Record Analysis Sheet
The Sniper"
.eriod 4 - Control Group: No Pre-writing

| | GPA | Litrl. | Intrprtv. | Total Correct |
|---|---|---|---|---|
| 1. Aguilar Frankie | 2.0 | 0% | 40% | 20% |
| 2. Araujo Michiko | 1.0 | 0% | 20% | 10% |
| 3. Arriola Victor | .8 | 40% | 60% | 50% |
| 4. Briceno Diane | 2.2 | 20% | 0% | 10% |
| 5. Buenafe Anna | 1.3 | 20% | 20% | 20% |
| 6. Chang Joanne | .6 | 20% | 20% | 20% |
| 7. Ciani Theresa | 3.1 | 20% | 100% | 60% |
| 8. Garcia George | 1.0 | 40% | 40% | 40% |
| 9. Gonzalez Lydia | 1.7 | 0% | 40% | 20% |
| 10. Gozun Rachellene | 3.0 | 20% | 40% | 30% |
| 11. Himes Erika | 2.0 | 20% | 40% | 30% |
| 12. Hwang Andrew | 3.2 | 60% | 40% | 50% |
| 13. Krenz Susan | 1.6 | 20% | 20% | 20% |
| 14. Leon Mitchel | 1.4 | 20% | 0% | 10% |
| 15. Lewis Kirk | 1.1 | 20% | 20% | 20% |
| 16. Marquez Joseph | 1.0 | 0% | 20% | 10% |
| 17. Martinez Natalie | 2.3 | 40% | 20% | 30% |
| 18. Miller Kenneth | .8 | 20% | 20% | 20% |
| 19. Nerio Louis | 1.0 | 60% | 80% | 70% |
| 20. Oceguera Belen | 1.6 | 20% | 20% | 20% |
| 21. Portillo Adam | 2.7 | 40% | 60% | 50% |
| 22. Ramirez Israel | 3.2 | 60% | 60% | 60% |
| 23. Santos Jonathan | 3.6 | 20% | 60% | 40% |
| 24. Serrato Linda | 2.5 | 60% | 20% | 40% |
| 25. Thomas Evan | 2.1 | 0% | 40% | 20% |
| Averages of class totals of correct answers: | 1.87 | 25.6% | 36% | 30.8% |

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Class Summary Record Analysis Sheet
"The Sniper"
Period 6 - Experimental Group: Pre-writing

| | GPA | Litrl. | Intrprtv. | Total Correct |
|---|---|---|---|---|
| 1. Alvarado David | 1.8 | 40% | 40% | 40% |
| 2. Balancio Richard | 2.4 | 0% | 40% | 20% |
| 3. Berdecia Jose | 1.0 | 40% | 40% | 40% |
| 4. Bermudez Christian | .2 | 20% | 40% | 30% |
| 5. Donaldson Lindsay | 1.1 | 60% | 60% | 60% |
| 6. Field Tynan | 1.0 | 20% | 100% | 60% |
| 7. Flores Anna | 2.5 | 20% | 20% | 20% |
| 8. Garcia Kristen | 1.2 | 20% | 0% | 10% |
| 9. Goyette Bianca | 2.7 | 40% | 40% | 40% |
| 10. Griswold Rory | 3.2 | 20% | 80% | 50% |
| 11. Gudani Jason | 3.4 | 20% | 40% | 30% |
| 12. Hines Ebony | 1.2 | 40% | 40% | 40% |
| 13. Ishaq Neseem | 2.5 | 0% | 40% | 20% |
| 14. Istanbolian Vartan | .7 | 20% | 60% | 40% |
| 15. Jaquez Daniel | .1 | 0% | 0% | 0% |
| 16. Khan Kasim | 2.3 | 40% | 40% | 40% |
| 17. Lewis Rae-Lynn | 3.0 | 40% | 60% | 50% |
| 18. Magallanes Paul | 3.9 | 40% | 80% | 60% |
| 19. Padilla Cosme A. | 2.9 | 20% | 40% | 30% |
| 20. Renteria Juan | 2.9 | 0% | 40% | 20% |
| 21. Romero Kelly | 1.1 | 20% | 20% | 20% |
| 22. Ruiz Stevie | 2.5 | 20% | 40% | 30% |
| 23. Serrato Luisa | 2.0 | 40% | 60% | 50% |
| 24. Sichler Krystal | .7 | 0% | 40% | 20% |
| 25. Vargas Betty | 2.3 | 0% | 40% | 20% |
| Averages of class totals of correct answers: | 1.94 | 23.2 | 44% | 33.6 |

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